Northeastern Area State & Private Forestry

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A RAPID METHOD OF COLLECTING INSECT LARVAE

by

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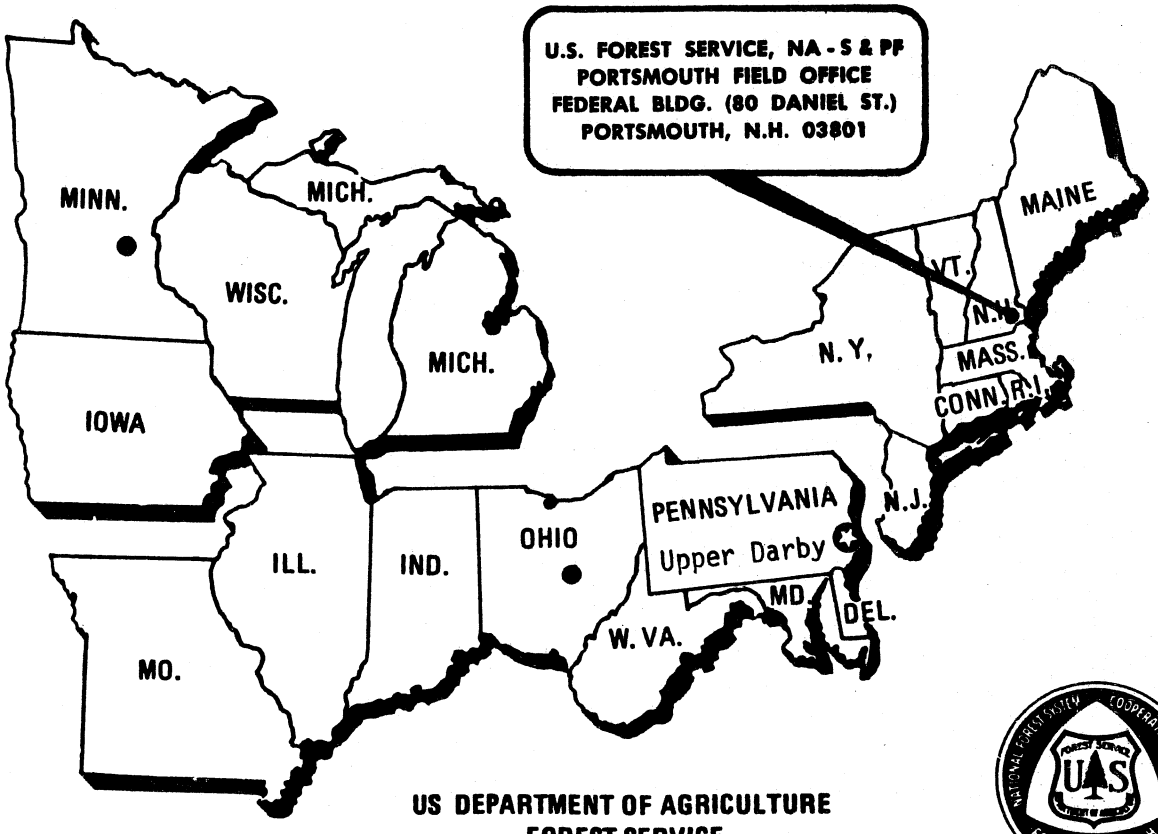


INTRODUCTION

On June 5, 1972, the Portsmouth Field Office was asked to collect 6 - 10,000 elm spanworm larvae to ship to Dr. Robert Lyon in Berkeley, California for insecticide screening. After visiting the Cockaponsett State Forest in Connecticut, it was decided that the paint brush and paper cup method was too slow and tedious. Equipment would have to be designed to rapidly collect the insect larvae.

OBJECTIVES

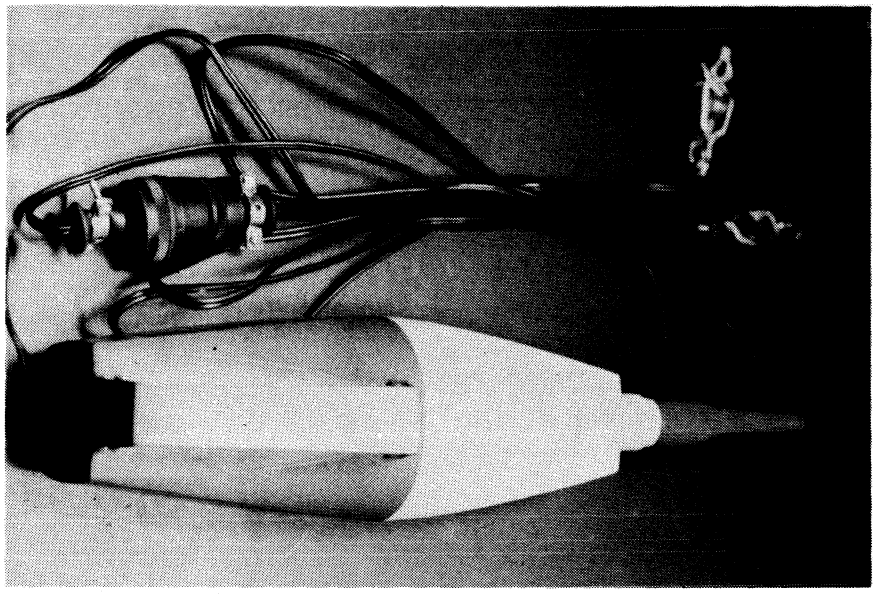
1. To collect insect larvae rapidly.
2. To facilitate ease in handling and shipping insect larvae.

METHODS AND MATERIALS

1. A Karco 12 volt vacuum cleaner, *model KV 1000, was purchased at a local hardware store to be modified for collecting large numbers of larvae as well as facilitate a minimum amount of handling of the larvae prior to shipping.

    a. The cord on the vacuum cleaner was cut and spliced with a male and female plug so that extension cords could be used with the equipment. Alligator clips were fastened at the other end of the cord for an easy hook-up to a power source,

* Use of a brand name does not imply endorsement of a product.



Photograph 1
A Karco vacuum cleaner modified to collect insect larvae.

such as a car or a motorcycle battery. The female plug was labeled and fastened to the cord attached to the vacuum cleaner to prevent someone from plugging the cord into a 110 volt A.C. wall socket.

b. The dust bag and supporting wires were removed to make room for a modified paper cup arrangement.

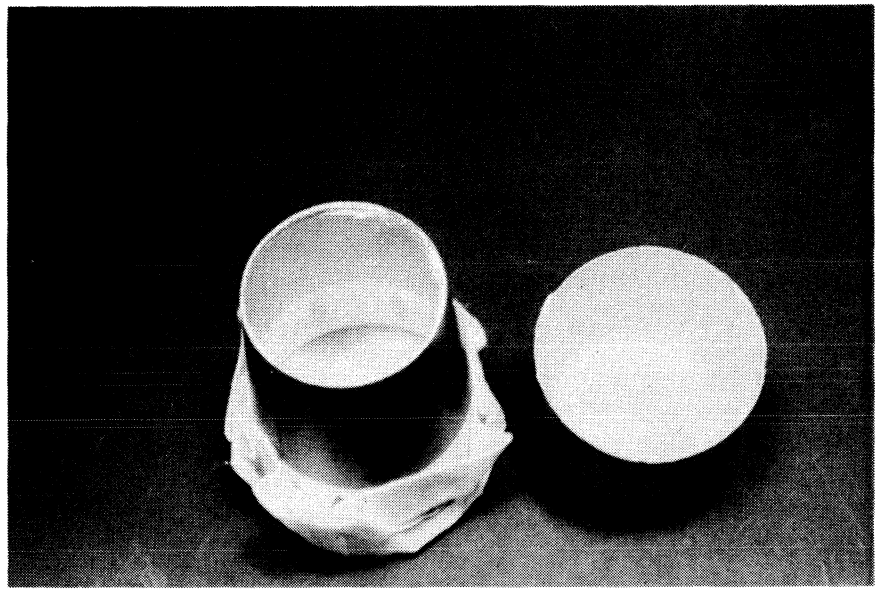
(1) The bottom of the cup was removed and a milk filter was held in place over the top with a rubber band.

(2) A second paper cup was cut in half and the lower end was saved to fit over the original cup.

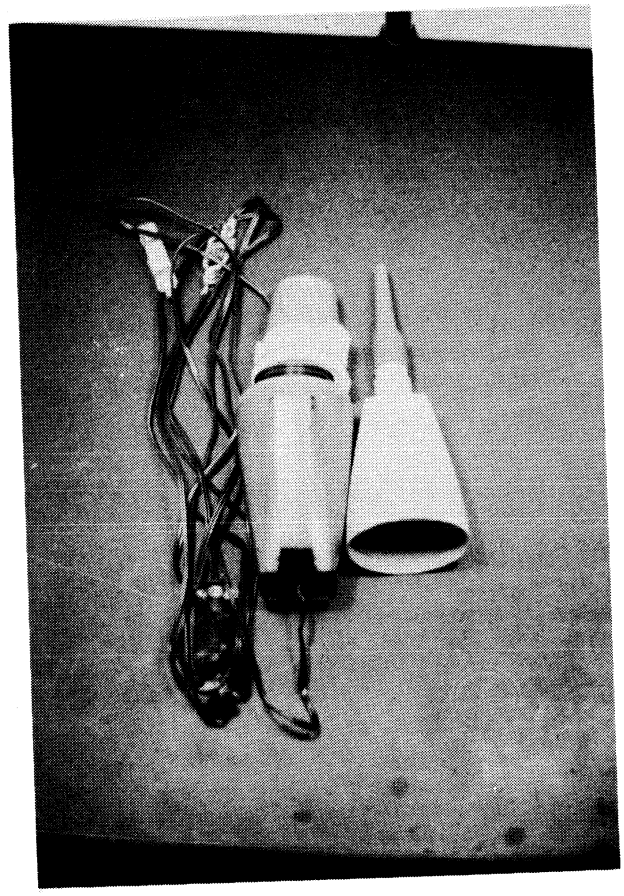
(3) The cups were nested together and fastened. This made a ventilated container for shipping insects.

The "larval collecting" apparatus was operated in the following manner:

a. A cup was taken from the supply box with the bottom removed and the small end placed toward the attachment inlet of the vacuum cleaner.



Photograph 2
A paper cup modified for use in Vacuum Cleaner arrangement.



PHOTOGRAPH 3

Vacuum cleaner taken apart to show how paper cup arrangement replaces the dust bag.

b. Alligator clips were connected to a power source such as a car battery.

c. Extension cords were laid and a plastic drop cloth was spread under the tree where the sample was taken.

d. The foliage on the tree was shaken with the pole pruners to knock the larvae from the tree onto the drop cloth.

e. Excess foliage was scraped away and the vacuum cleaner was used to suck up the larvae from the drop cloth.

f. After 50-60 larvae were collected in the cup, it was removed from the vacuum cleaner and foliage placed within the cup.

g. A cap is placed over the small end of the cup and they were placed into a box for shipment.

CONCLUSIONS

1. The use of a vacuum cleaner and paper cup device provides a rapid way to collect insect larvae.

2. Care must be taken when collecting insect larvae to make sure that they are not injured. The plastic drop cloth must be heavy so that it will not get sucked into the vacuum cleaner and injure the insects.

3. The paper cup was modified after the initial collections were made, because some insects escaped from cups during shipment. Some of the lids did not stay on during shipment and should be taped. The larvae were very healthy when they arrived at their destination.

4. A specified number of paper cup arrangements should be made up before shipment. The two halves should be taped together and shipped.